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NOTICE OF ALLOWANCE AND FEE(S) DUE

52989 7590 09/17/2010

Dickinson Wright PLLC
James E. Ledbetter, Esq.
International Square
1875 Eye Street, N.W., Suite 1200
Washington, DC 20006

EXAMINER	
SAFAIPOUR, BOBBAK	
ART UNIT	PAPER NUMBER
2618	

DATE MAILED: 09/17/2010

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/578,262	10/04/2006	Christian Wengerter	L7725.06108	2098

TITLE OF INVENTION: TRANSMISSION POWER RANGE SETTING DURING CHANNEL ASSIGNMENT FOR INTERFERENCE BALANCING IN A CELLULAR WIRELESS COMMUNICATION SYSTEM

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	$1510	$300	$0	$1810	12/17/2010

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

HOW TO REPLY TO THIS NOTICE:

I. Review the SMALL ENTITY status shown above.

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

A. If the status is the same, pay the TOTAL FEE(S) DUE shown above.

B. If the status above is to be removed, check box 5b on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and twice the amount of the ISSUE FEE shown above, or

If the SMALL ENTITY is shown as NO:

A. Pay TOTAL FEE(S) DUE shown above, or

B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check box 5a on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and 1/2 the ISSUE FEE shown above.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), to: Mail **Mail Stop ISSUE FEE**
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P.O. Box 1450
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INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

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1875 Eye Street, N.W., Suite 1200
Washington, DC 20006

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

Certificate of Mailing or Transmission

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

(Depositor's name)

(Signature)

(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/578,262	10/04/2006	Christian Wengerter	L7725.06108	2098

TITLE OF INVENTION: TRANSMISSION POWER RANGE SETTING DURING CHANNEL ASSIGNMENT FOR INTERFERENCE BALANCING IN A CELLULAR WIRELESS COMMUNICATION SYSTEM

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	$1510	$300	$0	$1810	12/17/2010

EXAMINER	ART UNIT	CLASS-SUBCLASS
SAFAIPOUR, BOBBAK	2618	455-522000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.

☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list

(1) the names of up to 3 registered patent attorneys or agents OR, alternatively,

(2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.

1 _____

2 _____

3 _____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE

(B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent) : ☐ Individual ☐ Corporation or other private group entity ☐ Government

4a. The following fee(s) are submitted:

☐ Issue Fee

☐ Publication Fee (No small entity discount permitted)

☐ Advance Order - # of Copies _____

4b. Payment of Fee(s): **(Please first reapply any previously paid issue fee shown above)**

☐ A check is enclosed.

☐ Payment by credit card. Form PTO-2038 is attached.

☐ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment, to Deposit Account Number _____ (enclose an extra copy of this form).

5. **Change in Entity Status** (from status indicated above)

☐ a. Applicant claims SMALL ENTITY status. See 37 CFR 1.27.

☐ b. Applicant is no longer claiming SMALL ENTITY status. See 37 CFR 1.27(g)(2).

NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

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Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)
(application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 675 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 675 day(s).

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (http://pair.uspto.gov).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

Notice of Allowability	Application No.	Applicant(s)	
	10/578,262	WENGERTER ET AL.	
	Examiner	Art Unit	
	BOBBAK SAFAIPOUR	2618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *08/17/2010*.

2. ☒ The allowed claim(s) is/are *45,49-51,55-69,73,74,77 and 80-85*.

3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a) ☒ All b) ☐ Some* c) ☐ None of the:
      1. ☒ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
      3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
   (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

   Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____ .
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

/Bobbak Safaipour/ Examiner, Art Unit 2618	

DETAILED ACTION

Reasons for Allowance

Claims 46-48, 52-54, 70-72, 75-76, and 78-79 have been cancelled.

Claims 45,49-51, 55-69, 73, 74, 77 and 80-85 are allowable.

Consider **claim 45**, the best prior art of record found during the examination of the present application, **Jang (US 5,579,373).**, fails to specifically disclose, teach, or suggest a method for balancing the distribution of interference between radio cells in a wireless communication system, the wireless communication system comprising a plurality of radio cells in which a plurality of subcarrier blocks are used for communication, wherein a number of adjacent radio cells build a cell cluster, wherein the radio cells of the cell cluster each comprise corresponding subcarrier block sets having the same subcarrier blocks, and wherein each subcarrier block comprises a plurality of subcarriers, the method comprising: grouping said subcarrier blocks into a plurality of subcarrier block sets in each radio cell of the cell cluster, determining a plurality of transmission power ranges for each of the radio cells of said cell cluster, wherein a respective transmission power range defines a range of transmission power levels used for transmission power control within a respective radio cell of the cell cluster, assigning the plurality of transmission power ranges to the subcarrier block sets of radio cells of the cell cluster, such that: in each radio cell of the cell cluster, each of said plurality of transmission power ranges is mapped to one of the subcarrier block sets of a respective radio cell, and each of said plurality of transmission power ranges is mapped to one of said corresponding subcarrier block sets among the radio cells of said cell cluster.

Claims 49 and 56-68 are allowable because it is dependent upon independent claim 45.

Consider **claim 50**, the best prior art of record found during the examination of the present application, **Jang (US 5,579,373).**, fails to specifically disclose, teach, or suggest a method for balancing the distribution of interference between radio cells in a wireless communication system, the wireless communication system comprising a plurality of radio cells in which a plurality of subcarrier blocks are used for communication, wherein N adjacent radio cells build a cell cluster, wherein the N radio cells of the cell cluster each comprise corresponding subcarrier block sets having the same subcarrier blocks, and wherein each subcarrier block comprises a plurality of subcarriers, N being an integer number of 2 or more, the method comprising: grouping said subcarrier blocks into N subcarrier block sets in each radio cell of the cell cluster, determining N transmission power ranges for each of the radio cells of said cell cluster, wherein a respective transmission power range defines a range of transmission power levels used for transmission power control within a respective radio cell of the cell cluster, assigning N transmission power ranges to the N subcarrier block sets of radio cells of the cell cluster, such that in each of the N radio cells of the cell cluster, each of said N transmission power ranges is mapped to one of the N subcarrier block sets of a respective radio cell, and each of said N transmission power ranges is mapped to one of said corresponding subcarrier block sets among the N radio cells of said cell cluster.

Consider **claim 51**, Jang discloses a method for balancing the distribution of interference between radio cells in a wireless communication system, the wireless communication system comprising a plurality of radio cells each of them comprising at least two sectors in each of which a plurality of subcarrier blocks are used for communication, wherein a sector of a radio cell and its adjacent sectors in neighboring radio cells build a sector cluster, wherein the sector cluster comprises corresponding subcarrier block sets having the same subcarrier blocks, and wherein each subcarrier block comprises a plurality of subcarriers), the method comprising: grouping said subcarrier blocks into a plurality of subcarrier block sets in each of the sectors of the sector cluster, determining a plurality of transmission power ranges for each sector of the sector cluster, wherein a respective transmission power range defines a range of transmission power levels used for transmission power control within a respective sector of the sector cluster, assigning the plurality of transmission power ranges to the plurality of subcarrier block sets of a sector of a radio cell and its adjacent sectors of said other radio cells, wherein said plurality of transmission power ranges is assigned to the subcarrier block sets of the sector cluster, such that in each sector of a sector cluster, each of said plurality of transmission power ranges is mapped to one of said subcarrier block sets of a respective sector, and each of said plurality of transmission power ranges is mapped to one of said corresponding subcarrier block sets in the sector cluster.

Claims 55 is allowable because it is dependent upon independent claim 51.

Consider **claim 69**, Jang discloses a base station for use in a wireless communication system., the wireless communication system comprising a plurality of radio cells in which a plurality of subcarrier blocks are used for communication, wherein a number of adjacent radio cells build a cell cluster, wherein the radio cells of the cell cluster each comprise corresponding subcarrier block sets having the same subcarrier blocks, and wherein each subcarrier block comprises a plurality of subcarriers, the base station controlling one of the radio cells of the cell cluster and comprising: a processing unit operable to group said subcarrier blocks into a plurality of subcarrier block sets in the radio cell of the cell cluster controlled by the base station, a determination unit operable to determine a plurality of transmission power ranges for the radio cell of the cell cluster controlled by the base station, a power control unit operable to perform power control within a range of transmission power levels defined by a respective one of said plurality of transmission power ranges, an assigning unit operable to assign the plurality transmission power ranges to the subcarrier block sets of the radio cells of the cell cluster controlled by the base station, such that in each radio cell of the cell cluster, each of said plurality of transmission power ranges is mapped to one of the subcarrier block sets of a respective radio cell, and each of said plurality of transmission power ranges is mapped to one of said corresponding subcarrier block sets among the radio cells of said cell cluster.

Claim 80 is allowable because it is dependent upon independent claim 69.

Consider **claim 73**, Jang discloses a base station in a wireless communication system, the wireless communication system comprising a plurality of radio cells in which a plurality of subcarrier blocks are used for communication, wherein N adjacent radio cells build a ceil cluster, wherein the N radio cells of the cell cluster each comprise corresponding subcarrier block sets having the same subcarrier blocks, and wherein each subcarrier block comprises a plurality of subcarriers, N being an integer number of 2 or more, the base station controlling one of the radio cells of the cluster and comprising: a processing unit operable to group said subcarrier blocks into N subcarrier block sets in the radio cell controlled by the base station, a determination unit operable to determine N transmission power ranges for the radio cell of the ceil cluster controlled by the base station, a power control unit operable to perform power control within a range of transmission power levels defined by a respective one of said plurality of transmission power ranges, an assigning unit operable to assign N transmission power ranges to the N subcarrier block sets of the radio cells of the cell cluster controlled by the base station, such that in each of the N radio cells of the cell cluster, each of said N transmission power ranges is mapped to one of the N subcarrier block sets of a respective radio cell, and each of said N transmission power ranges is mapped to one of said corresponding subcarrier block sets among the N radio cells of said cell cluster.

Claim 77 is allowable because it is dependent upon independent claim 73.

Consider **claim 74**, Jang discloses a base station for use in a wireless communication system, the wireless communication system comprising a plurality of radio cells each of them

comprising at least two sectors in each of which a plurality of subcarrier blocks are used for communication, wherein a sector of a radio cell and its adjacent sectors in neighboring radio cells build a sector cluster, wherein the sector cluster comprises corresponding subcarrier block sets having the same subcarrier blocks, and wherein each subcarrier block comprises a plurality of subcarriers, the base station controlling a radio cell having a sector of the sector cluster and comprising: a processing unit operable to group said subcarrier blocks into a plurality of subcarrier block sets in the sector of the sector cluster controlled by the base station, a determination unit operable to determine a plurality of transmission power ranges for the sector of the sector cluster controlled by the base station, a power control unit operable to perform power control within a range of transmission power levels defined by a respective one of said plurality of transmission power ranges, an assigning unit operable to assign the transmission power ranges to the subcarrier block sets of the sector of the sector cluster controlled by the base station such that in each sector of a sector cluster, each of said plurality of transmission power ranges is mapped to one of said corresponding subcarrier block sets in the sector cluster each of said plurality of transmission power ranges is mapped to one of said corresponding subcarrier block sets in the sector cluster.

Consider **claim 85**, Jang discloses a communication terminal in a wireless communication system, the wireless communication system, comprising a plurality of radio cells in which a plurality of subcarrier blocks are used for communication, wherein, a number of adjacent radio cells build a cell cluster, wherein the radio cells of the cell cluster each comprises corresponding subcarrier block sets having the same subcarrier blocks, and wherein each

subcarrier block comprises a plurality of subcarriers; wherein the communication terminal is communicating in one of the radio cells of the cell cluster and comprising: a power control unit that performs power control of the data transmitted to a base station controlling the radio cell by the communication terminal, wherein the power control unit performs power control within a given one of plural transmission power control ranges, wherein each transmission power control range is associated to one of the subcarrier block sets in the radio cell, a receiving unit that receives an allocation of a subcarrier block assignment or a subcarrier block set and a selection unit that transmits data to the base station on the assigned subcarrier block or assigned subcarrier block set, wherein the transmit power control unit performs power control, of the transmitted data within the transmit power control range associated to the subcarrier block set to which the assigned subcarrier block belongs, respectively associated to the assigned subcarrier block set.

Conclusion

Any response to this Office Action should be **faxed to** (571) 273-8300 **or mailed to**:

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Hand-delivered responses should be brought to

Customer Service Window
Randolph Building
401 Dulany Street
Alexandria, VA 22314

Any inquiry concerning this communication or earlier communications from the

Examiner should be directed to Bobbak Safaipour whose telephone number is (571) 270-1092. The Examiner can normally be reached on Monday-Friday from 9:00am to 5:00pm.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Matthew Anderson can be reached on (571) 272-4177. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free) or 703-305-3028.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist/customer service whose telephone number is (571) 272-2600.

Bobbak Safaipour
B.S./bs

August 22, 2010

/Matthew D. Anderson/

Supervisory Patent Examiner, Art Unit 2618